

(c) screening for changes in the severity of the phenotype.

5. (Once Amended) A method of determining various *Drosophila* proteins interacting with full-length and protein domains human APC protein wherein, said method comprising:

(a) providing the transgenic fly of claim 1, wherein said flies have said developmental abnormalities,

(b) crossing the said transgenic flies individually to a set of *Drosophila* strains each of which carries mutation in a different gene or set of genes, and

(c) screening for the change in the severity of the phenotype.

a' 6. (Once Amended) A method for determining the modulation and differential expression of genes following the mis-expression of full-length and its protein domains human APC in *Drosophila* wherein, said method comprising:

(a) providing the transgenic *Drosophila* as claimed in claim 1 wherein, the flies have developmental abnormalities,

(b) screening for differential gene expression using differential display-RT PCR or microarray techniques, and

(c) identifying genes that are differentially regulated on expression of human APC.

7. (Once Amended) A method for determining the modulation and differential expression of proteins following the mis-expression of full-length and its protein domain human APC in *Drosophila* wherein, said method comprising:

(a) providing the transgenic *Drosophila*, as claimed in claim 1 wherein, the flies have developmental abnormalities,

(b) identifying differential gene expression and protein modifications using proteomics techniques, and

(c) identifying gene products that are differentially regulated on expression of human APC.

8. (Once Amended) A method to study Wnt/Wg signaling in *Drosophila* said method comprising;

(a) providing the transgenic *Drosophila*, as claimed in claim 1,

Q<sup>1</sup> (b) crossing these transgenic flies to a number of GAL4 drivers to induce targeted expression of said constructs in various tissues and at different developmental stages, and

(c) examining developmental abnormalities.

9. (Once Amended) Method as claimed in claim 6 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC to study mechanism of various developmental processes such as wing, leg, eye, antennae, and adult cuticle development.

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Q<sup>2</sup> 13. (Once Amended) Method as claimed in claim 6 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC which has advantages to study the *Drosophila* Wnt/Wg signaling pathway.

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Q<sup>3</sup> 15. (Once Amended) A Method as claimed in claim 5 wherein, new target proteins interacting with  $\beta$ -catenin are identified.

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Q<sup>4</sup> 17. (Once Amended) Method as claimed in claim 5 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC to study biochemical function of human APC function.

18. (Once Amended) Method as claimed in claim 5 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC to identify additional components of *Drosophila* Wnt/Wg signaling pathway.

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22. (Once Amended) A method for selecting a compound for anti-cancer activity, which potentially inhibits or enhances the developmental abnormalities induced by the expression of full length and protein domains of human APC in *Drosophila*, said method comprising:

- (a) providing the transgenic fly of claim 19, wherein said flies have said developmental abnormalities,
- (b) administering the said compounds to the said transgenic *Drosophila* at different concentrations, and
- (c) screening for the change in the severity of the phenotype.

23. (Once Amended) A method of determining various *Drosophila* proteins interacting with full-length and protein domains human APC protein wherein, said method comprising:

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- (a) providing the transgenic fly of claim 19, wherein said flies have said developmental abnormalities,
  - (b) crossing the said transgenic flies individually to a set of *Drosophila* strains each of which carries mutation in a different gene or set of genes, and
  - (c) Screening for the change in the severity of the phenotype.

24. (Once Amended) A method for determining the modulation and differential expression of genes following the mis-expression of full-length and its protein domains human APC in *Drosophila* wherein, said method comprising:

- (a) providing the transgenic *Drosophila* as claimed in claim 19 wherein, the flies have developmental abnormalities,
- (b) screening for differential gene expression using differential display-RT PCR or microarray techniques, and
- (c) identifying genes that are differentially regulated on expression of human APC.

25. (Once Amended) A method for determining the modulation and differential expression of proteins following the mis-expression of full-length and its protein domain human APC in *Drosophila* wherein, said method comprising:

(a) providing the transgenic *Drosophila*, as claimed in claim 19 wherein, the flies have developmental abnormalities,

(b) identifying differential gene expression and protein modifications using proteomics techniques, and

(c) identifying gene products that are differentially regulated on expression of human APC.

Q<sup>5</sup> 26. (Once Amended) A method to study Wnt/Wg signaling in *Drosophila* said method comprising;

(a) providing the transgenic *Drosophila*, as claimed in claim 19,

(b) crossing these transgenic flies to a number of GAL4 drivers to induce targeted expression of said constructs in various tissues and at different developmental stages, and

(c) examining developmental abnormalities.

27. (Once Amended) Method as claimed in claim 24 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC to study mechanism of various developmental processes such wing, leg, eye, antennae, and adult cuticle development.

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Q<sup>6</sup> 31. (Once Amended) Method as claimed in claim 24 wherein, examination of developmental abnormalities using gain-of-function genetic model for human APC which has advantages to study the *Drosophila* Wnt/Wg signaling pathway.

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Q<sup>7</sup> 33. (Once Amended) Method as claimed in claim 23 wherein, new target proteins interacting with  $\beta$ -catenin are identified.

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